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DESCRIPTIONS OF APPARENTLY NEW MAMMALS OF THE GENERA *OVIBOS*, *CYNOMYS* AND *MUSTELA*.

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The specimens described in the present paper have been in the collection of the Field Columbian Museum for a considerable time, some of them indeed for several years. It is regretted that an exact locality can not be given for the new race of the musk-ox, but this, as every collector knows, is practically impossible, when the specimens are obtained from the natives of any country—an approximate locality being all that can be given. Only the trained collector appreciates the importance of recording the exact place at which his specimens were procured.

Ovibos moschatus niphœcus* subsp. nov.

BLACK MUSK-OX.

Type from the region north of Hudson Bay; exact locality unknown. Type No. 1267, Field Columbian Museum.

General characters.—In color intermediate between *O. moschatus* and *O. m. wardi*. Most of the young animals, and some of those in the prime of life, have a narrow white band between the ears back of the horns, but no white on the face. The old bull, which is in worn pelage, has no white hairs anywhere, while the aged cow, presumably his mate (as all the speci-

* *νιφα* snow, and *οικέω* to dwell—to dwell amid the snow.

mens, twelve in number, were stated to have been killed out of the same herd), has a small quantity of white on the face. The color of the legs is different from that of both the other named forms, being grayish white on fore legs, but blackish or black and gray on the hind legs. The curve of the horns is between that of *O. moschatus* and *O. m. wardi*, projecting outward more than in the first, but much less, and closer to the head than in the latter. The skulls exhibit the same intermediate characteristics. Those of *moschatus* and *wardi* in their general characters are nearer to each other than either of them is to that of the present race, which in certain points agrees with both. The nasal bones of *moschatus* are long and much more slender than those of *wardi*, while those of the present race are short and broad for their length, but more nearly resemble those of *moschatus*. The shape of the lacrymal in the new subspecies at once attracts attention, and is quite different from that exhibited by its allies. Forming a portion of the wall of the bony orbit, it is much smaller and less wide than in either of the other forms. In *moschatus* it is a long bone, widening gradually from the posterior end to the anterior, the posterior half slanting backward, and at a greatly lessened angle to the anterior portion. The lacrymal bone of *wardi* is compressed in the middle, the posterior portion standing at a right angle to the anterior, and widening broadly at its forward termination. The lacrymal of the present subspecies, in comparison to those of its relatives is a small bone, in shape nearer that of *moschatus* than of *wardi* and, as in the former, not compressed in the middle to any extent, with the posterior end sloping backward even more than in that of *moschatus*. It resembles therefore the lacrymal of *moschatus* more than it does that of *wardi*, but is conspicuously different in its smaller size. The horn cores slant away from the skull more than do those of *moschatus*, but much less than those of *wardi*. A ridge runs along the malar beneath the orbit and turning downward in front of the orbit extends onto the maxilla continuing onwards in *moschatus* to above the third premolar, in *wardi*, and the present subspecies to above the fourth premolar. In *wardi* this ridge is exceedingly sharp, especially in front of the orbit, in *moschatus* much less so, and in *O. m. niphœcus* it is rounded on top along its entire length. On the under surface of the skulls the paroccipital processes attract the eye by their very different size and shape, those of *moschatus* and *wardi* being broad, heavy, and curving inward at the tip, while those of the new race are slender, erect, and graduating to the narrow tips, thus presenting an altogether different appearance. The bullæ of *wardi* are arcuate in shape, the posterior portion turning outward away from the line of the anterior portion, and are of large size, and but slightly curved on the superior outline. Those of the new form are next in size though not so large as those of *wardi*, only of a slightly arcuate shape, and greatly curved on the superior outline which is sharp. The bullæ of *moschatus* are the smallest of the three. The postglenoid foramen is widely open in *moschatus*, much less so in *niphœcus* and greatly contracted in *wardi;* and the glenoid processes of the three forms are of quite different shapes, being very broad with rounded tips in *moschatus*, much smaller but of similar form in *wardi*, and high and narrow in the new subspecies. The basioccipital of *O. m. niphœcus* narrows rapidly

toward its anterior end, being somewhat the shape of an arrowhead divested of its point, while the same bone in the other two forms preserves an equal width for nearly the entire length. The basisphenoid and presphenoid are also narrower in the new form. The foramen ovale, and foramen lacerum anterius are both larger and more widely open than are those in the forms compared, and the foramen rotundum is also larger.

Color.—Type, bull in prime of life. A narrow whitish band between ears, behind the bosses of the horns, and a small brown saddle on middle of back; rest of head, neck and body, jet black. Fore legs grayish in front, black behind changing into grayish white above the hoofs; hind legs black in front, becoming gray above hoof; grayish on sides and hinder part. Long black hairs on body covering the legs to the knees. Nose and lips and chin grayish white; ears black.

The young bull, female, and calves resemble the type in their jet black hue and in the varying color of the legs. The old bull is of a dark brown hue becoming black upon the flanks, but no white whatever showing anywhere. The old cow is of the same general color as the aged bull, but has a little white upon the sides of the nose.

Measurements.—Skull: Total length, 430; occipito-nasal length, 355; greatest breadth across orbits, 245; median length of nasals, 121; greatest width posteriorly, 64; anterior width (at tips), 13; zygomatic width, 168; palatal arch to end of premaxillæ, 249; greatest width of palatal floor between fourth premolars, 76; length of horn core from edge on top of head to tip, 230; length of upper tooth row, alveolar border outer side, 140; posterior width of basioccipital, 62; anterior width in front of bullæ, 32; length of mandible, 345; length of lower tooth row, alveolar border outer side, 145.

Remarks.—Comparison of skulls has been made between specimens of *O. moschatus* from north of Great Slave Lake and one of *O. m. wardi* brought from Bache Peninsula, west side of Kane Basin, by Commander Peary, kindly loaned to me by Dr. J. A. Allen of the New York Museum. These with the skulls of *O. m. niphœcus* were from bulls of about the same age.

Shortly after my return from the expedition into Africa in 1896, I received information that twelve specimens of musk-ox had arrived at New Bedford, Mass., and I at once sent the Taxidermist of the Museum to see them and report upon their condition. The report being favorable, the twelve were purchased and brought to the Museum. The account given of these individuals by Mr. Luce of Thomas Luce & Co. of New Bedford, was, that on a previous voyage of one of their whaling ships, the firm, having decided to try to obtain some musk-oxen, directed the captain to make arrangements with the Eskimos for their capture, and ammunition and supplies for the hunt were provided. This was done, and on the next trip, carrying the necessary desiderata, the ship was met at a point on the coast (the exact locality unknown to me) by the Eskimos, who, on receiving the supplies, departed for the interior, agreeing to meet the ship at the same place on its return south in the autumn, with such skins as they might have been successful enough to secure. On the ship's arrival in the autumn the Eskimos were at the place appointed with the skins of twelve

musk-oxen, four polar bears and some seals (the last probably captured near the coast, before the ship arrived), all of which were secured for the Field Columbian Museum. The skins of the oxen were frozen and the heads and legs had never been skinned, and this process had to be performed after their arrival at the Museum. This, perhaps, was fortunate, as no mistake could be made in keeping the right skull and skin together.

It was recognized that they were a queer looking lot, like *O. moschatus* and yet unlike, but, for lack of proper material to compare with them and a conservative unwillingness to unnecessarily increase the number of species, they were considered simply as the ordinary musk-ox, until more evidence to the contrary was available. A few years after, Mr. Lydekker described a new form from Greenland as *O. m. wardi*, but on comparing his description with the Museum specimens it was found to disagree with them in various ways. At length Dr. Allen received examples of *O. m. wardi* collected by Peary, and in the mean time the Field Museum had secured five adult specimens of the real *O. moschatus*, obtained 160 miles north of Fort Resolution, Great Slave Lake, and the opportunity of comparing the eastern and western forms with these undetermined specimens had at length, after long waiting, arrived.

While great numbers of the skins of musk-oxen have been received from the Arctic regions every year, comparatively few have found their way into the collections of museums. The chief reason for this is that they come as flat skins suitable for carriage robes or to be made into rugs, and usually without head or skull. And sometimes when these are brought with the skin, the locality where the animal was killed is unknown and the specimen's specific value is consequently non-existent, or seriously impaired. Fortunately the locality of the specimens in the Museum collection are fairly well known, for all were obtained by parties sent out expressly to obtain the animals and preserve them for museum exhibits, and while the *exact* location where the Eskimos procured the specimens of *O. m. niphœcus* can not be given, we know from their statement that they, the natives, went about 600 miles inland from where they met the ships, to the northward of Hudson Bay.

The new subspecies is the intermediate of the two forms previously described, agreeing with either one or the other in certain particulars and differing from both in others. The jet black pelage is very striking when placed beside the brown animals of the other forms and makes them conspicuously different, while the narrow, whitish band on top of the head exhibits a leaning toward *wardi*, but the dark legs again give an affinity to *moschatus*. The shape of the horns is a compromise between the two, more spreading and farther from the head than those of *moschatus*, but less wide and more confined to the head than those of *wardi*. The differences exhibited by the skulls have been already mentioned, and it would appear that the characters there described and the jet black pelage sufficiently indicate this animal's claims to a distinct subspecific rank.

The brown pelage of the old bull and cow may be the result of age, for it can not be deemed seasonal as all the specimens were obtained at the same time, and if it represented the summer coat, the others, we naturally

would assume, would be brown also. The total absence of all white hairs from the old bull is singular, as he is the only one without them.

Seven specimens of this new subspecies are mounted and arranged in a group in the west court of the Museum.

Cynomys pyrrotrichus* sp. nov.

RED PRAIRIE DOG.

Type from White Horse Spring, Oklahoma Territory. Type No. 6863, Field Columbian Museum.

General characters.—General color cinnamon rufous, altogether different from that of *C. ludovicianus*. Skull compared with that of above-named species has a narrower palate and larger bullæ; and with *arizonensis* has a broader braincase and wider nasals.

Color.—Head, upper parts of body and sides cinnamon rufous, darkest on head and dorsal region, each hair tipped with whitish, most conspicuous on sides of rump and flanks; underparts and inner side of legs pale yellowish washed or tinged with rufous on chest and abdomen, grading on sides into the color of the flanks; upper parts of fore legs and feet pale vinaceous cinnamon; outer side of thighs pale cinnamon rufous; feet pale vinaceous buff; claws black. Tail cinnamon rufous grading to Van Dyke brown at tip.

Measurements.—Total length, 385; tail vertebræ, 70; hind foot, 58. Skull: total length, 63; Hensel, 52; zygomatic width, 45; greatest width of braincase, 25; length of nasals, 21; palatal length, 31.5; length of upper molar series, 13; length of mandible, angle to top of incisors, 18; lower molar series, 16.

Remarks.—In my paper on Oklahoma mammals collected by Mr. Surber, I noticed a great difference in the color of the specimens obtained when compared with those of the other known species of *Cynomys*, those from Oklahoma being very much darker and more reddish. As all Mr. Surber's examples were collected in the spring (April), I supposed the difference of hue might be attributed to a seasonal variation, and called the specimens *ludovicianus*. Having, however, obtained some *C. ludovicianus* taken in April, I find that the same difference in color still exists and that it is not caused by any seasonal change of pelage. The same striking variation in the general hue is exhibited between the present species and other members of the genus *Cynomys*, as exists between *Citellus 13-lineatus* and *C. 13-l. texensis*, with the addition of separate cranial characters.

Mustela boria† sp. nov.

FARTHEST NORTH MARTEN.

Type from the Lower MacKenzie River District, toward Arctic Ocean; exact locality unknown. No. 13,484, Field Columbian Museum.

General characters.—Darkest in color of American martens; tail long, black.

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* πυῤῥό-τριχος—with red hair.

† Βόρειος adj.—from the quarter of the North Wind.

Color.—Sides of head grayish white; nose and top of head light brown and gray mixed; entire body above and below burnt umber, blackish on dorsal region; entire throat beneath blotched with orange; fore and hind legs black; tail black, base of hairs on proximal half burnt umber; ears like body externally, white internally.

Measurements.—Total length, nose to end of hairs of tail, 785; tail to end of hairs, 267; hind foot, 85 (skin). Skull (broken): Zygomatic width, 50; intertemporal width, 16; length of nasals, 15; width of rostrum at canines, 18; palatal length, 41; length of upper tooth row, outer edge of canine to posterior edge of last molar, 30; length of mandible, 51; length of lower tooth row, 36.

Remarks.—About two years ago an order was given to a captain of a whaling vessel to get some marten during his trip to the Arctic Sea, with skulls and everything complete for Museum specimens, and the result was the five examples now in the Museum, procured at the mouth of the MacKenzie, the ship's winter quarters, presumably from the Eskimos. The peculiarity of these marten is their very dark color (even when compared with *M. a. kenaiensis*), and the long black tail. The country between the presumed range of the new form and *M. a. kenaiensis* is occupied by the *M. actuosa* Osgood, a fine series of which is in the Museum collection from the Bering Sea coast of Alaska, and which is totally different from the new form. The exact locality of these specimens is not known, but as they were received at the ship in the winter, it may be considered to be the first wooded district in the vicinity of the MacKenzie, from its mouth as one ascends the stream. It was stated that the examples came from the mouth of the MacKenzie, but as there are no trees there, the type locality is probably farther up the river.

The skull of *M. boria* compared with *M. a. kenaiensis* has a narrower rostrum, more constricted intertemporal region, and wider palate.